# Tuesday 13 June

18:00 Reception at Hotel de Borken

# Wednesday 14 June

9:00 Registration

9:15 Welcome

### Status of the telescopes and data available for early science;

Chair: E. Sadler

| 9:30 <mark>Jar</mark>   | mes . | Allison  | CSIRO Astronomy & Space Science | ASKAP Status Update    |
|-------------------------|-------|----------|---------------------------------|------------------------|
| 9:55 Bra                | adley | Frank    | University of Cape Town         | MeerKAT                |
| 10:20 <mark>Yo</mark> g | gesh  | Chandola | NAOC                            | FAST status and update |

#### 10:45 Coffee

| 11:15 Betsey | Adams     | ASTRON           | Apertif  |
|--------------|-----------|------------------|--|
| 11:35 Tom    | Oosterloo | ASTRON/Kapteyn A | Astronomical InstituStatus and progress of Apertif |
| 11:55 Zsolt  | Paragi    | JIVE             | Opportunities from VLBI                            |

12:15 Discussion: Status of the telescopes (chair: E. Sadler)

#### 13:00 Lunch

# Experience built and tools available for the handling and analysis of new data

Chair: N. Gupta

| 14:00 Ravi Sharma a | and Dolly Gyanchandani | ThoughtWorks                      | Automated data processing for uGMRT and MeerKAT absorption line surveys                 |
|---------------------|------------------------|-----------------------------------|---|
| 14:25 Filippo       | Maccagni               | ASTRON - Kapteyn Institue         | The Last Survey of the old WSRT: tools and results for the future HI absorption surveys |
| 14:50 Stephen       | Curran                 | Victoria University of Wellington | Machine learning for HI absorption  |
|                     |                        |                                   |   |

#### 15:15 Coffee

| 16:10 Martin Meyer ICRAR/UWA Status of SKA for HI absorption | 15:45 James  | Allison | CSIRO Astronomy & Space Science | A statistical method for measuring the HI spin temperature |
|--|--------------|---------|---------------------------------|--|
|  | 16:10 Martin | Meyer   | ICRAR/UWA                       | Status of SKA for HI absorption                            |

16:35 Discussion: Status of the analysis tools (chair: N. Gupta)

circa 17:30:00 Drinks

# Thursday 15 June

### Planning for the HI absorption surveys

Chair: T. Oosterloo

| 9:30 Eric    | Wilcots        | University of Wisconsin | Using HI Absorption to Probe the CGM and IGM in Galaxy Groups                       |
|--------------|----------------|-------------------------|---|
| 9:55 Lister  | Staveley-Smith | ICRAR/UWA               | Evolution of Cosmic Gas Density   |
| 10:20 Elaine | Sadler         | University of Sydney    | A successful search for intervening 21 cm HI absorption at $0.4 < z < 1$ with ASKAP |

#### 10:45 Coffee

| 11:15 Neeraj    | Gupta    | IUCAA               | Blind HI and OH absorption line search: status update on MALS and early results from uGMRT |
|-----------------|----------|---------------------|--|
| 11:40 Raffaella | Morganti | ASTRON/Kapteyn Inst | SHARP: the HI absorption survey with Apertif   |

12:05 Discussion: Planning for large surveys (chair: T. Oosterloo)

12:45 Lunch

# Early science results before the large surveys

| Chair: | J. Al | llison |
|--------|-------|--------|
|--------|-------|--------|

| 14:00 Ju | ılie       | Davis      | University of Wisconsin-Madison   | HI Absorption with CHILES  |                   |
|----------|------------|------------|-----------------------------------|--|-------------------|
| 14:25 At | ttila      | Popping    | ICRAR/UWA                         | Linking absorption and emission measurement of the CGM with IMAGINE    |                   |
| 14:50 Sa | anchayeeta | Borthakur* | Johns Hopkins University          | Tracing the coolest neutral gas component of galaxies                  | (to be confirmed) |
| 15:15 St | tephen     | Curran     | Victoria University of Wellington | The spin temperature of damped Lyman-alpha absorption systems and star | formation history |
|          |            |            |                                   |  |                   |

#### 15:40 Coffee

| 16:00 | Rajeshwari | Dutta    | IUCAA | Distribution of cold gas around galaxies  |
|-------|------------|----------|-------|---|
| 16:25 | Yogesh     | Chandola | NAOC  | HI absorption towards low luminosity radio AGNs of different accretion modes and WISE colours |
| 16:50 | Aditya     | JNHS     | IUCAA | Cold Gas in High Redshift Active Galaxies   |

<sup>17:15</sup> Discussion part I: Strategy for optical/mm/other follow-up of the large surveys (chairs: Allison and van der Hulst)

#### Social dinner

### Friday 16 June

# Early science results before the large surveys (continue)

Chair: T. van der Hulst

| 9:30 Elizabeth   | Mahony | University of Sydney    | Searching for HI absorption in the brightest southern radio galaxies                      |  |
|--|--------|-------------------------|---|--|
| 9:55 Bjorn   | Emonts | Centro de Astrobiologia | Atomic gas in the halo of a massive proto-cluster galaxy: prospects for high-z HI studies |  |
| 40.20 Pierweier wert IV. Charles for anti-class (allowed able to a fellower of the least survey (abelian Allice and and dealth late) |        |                         |   |  |

10:20 Discussion part II: Strategy for optical/mm/other follow-up of the large surveys (chairs: Allison and van der Hulst)

#### 10:50 Coffee

# Follow-up and synergies

|  | Mac |  |
|--|-----|--|
|  |     |  |

| 11:20 Robert | Schulz | ASTRON | Probing HI outflows on parsec scales in radio galaxies with VLBI  |
|--------------|--------|--------|---|
| 11:45 Martin | Zwaan  | ESO    | Parsec-scale HI absorption structure in a low-redshift DLA galaxy |
|              |        |        |   |

#### 12:10 Lunch

| 13:30 | Vanessa  | Moss | ASTRON             | Connecting HI and soft X-ray absorption in distant AGN with next-generation telescopes |
|-------|----------|------|--------------------|--|
| 13:55 | Alastair | Edge | Durham University  | HI and CO absorption against the cores of Brightest Cluster Galaxies                   |
| 14:20 | Raymond  | Oonk | ASTRON / Leiden    | The role of the cold atomic gas in our Galaxy and beyond.                              |
| 14:45 | Kimberly | Emig | Leiden Observatory | Unveiling the physical conditions of neutral gas with radio recombination lines        |

15:10 Final wrap up and discussion chaired by the SOC

15:40 End of workshop

<sup>17:45</sup> End second day